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Original research

Need for standardization of the measurement of preoperative weight in bariatric surgical patients in the UK: A survey of British Obesity and Metabolic Surgery Society (BOMSS) members

A.V. Ariyarathenam [a,*], D.J. Pournaras [b], J.C. Tham [b], I. Finlay [a], A. Cota [a]

[a] Department of Bariatric Surgery, Royal Cornwall Hospital, UK
[b] Department of Bariatric Surgery, Musgrove Park Hospital, Taunton, UK

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ABSTRACT

Background: Weight loss is the most commonly used metric in comparing outcomes after bariatric surgery. This is frequently presented in the form of percentage of excess weight loss (%EWL). Patients' weight is measured at several time points prior to surgery. The time point selected as the preoperative weight can have significant effects upon the measurement of %EWL. This study aimed to investigate whether there was any standardization in the selection of preoperative weight amongst UK bariatric surgery healthcare professionals.

Methods: A questionnaire survey was conducted among the delegates at the British Obesity and Metabolic Surgery Society (BOMSS) meeting in January 2011.

Results: A total of 54 delegates (consultant & trainee surgeons, bariatric specialist nurses, dieticians and psychologists) responded to the survey. A wide variation was noted in which preoperative weight was used in the calculation of %EWL, both among various disciplines and also among the same disciplines. The majority (61%) used the preoperative weight recorded at the bariatric surgical assessment clinic prior to surgery. 20% of delegates used the highest recorded preoperative weight. The remainder of delegates used weight recorded on the day of surgery (17%) or the weight recorded during the first visit to a medical physician led weight management clinic (2%).

Conclusion: Variation in the measurement of the preoperative weight will lead to variations of calculated %EWL between different bariatric units or even between different disciplines in the same unit. This will make comparison of published outcome data difficult. This study highlights the urgent need for standardization.

1. Introduction

Obesity surgery is a rapidly growing specialty in the United Kingdom, with an increase of 70% in the last year.[1] The most common measurement of outcome after obesity surgery is the amount of weight lost. This is often reported as percentage of excess weight loss (%EWL).[2,3]

%EWL is dependent on the preoperative weight, the post-operative weight and the ideal body weight. The variation in the definition of preoperative weight can lead to significant variation in the reporting of %EWL.[2,3] This will lead to considerable difficulty in comparing the results from various bariatric units and in also comparing the efficacy of the different surgical techniques used, and may hinder the scientific development of the specialty.

2. Method

A survey was conducted at British Obesity and Metabolic Surgery Society (BOMSS) meeting in January 2011. A simple single question questionnaire (Appendix A) was distributed among the delegates.

3. Results

A total of 54 delegates completed the questionnaire. The delegates were from the various multidisciplinary teams involved in the bariatric surgery pathway. A total of 34 (63%) were surgeons (20 consultants and 14 trainees). Ten (18%) Dieticians, 8 (15%) Bariatric nurses and 2 (4%) Psychologists also responded (Fig. 1).

The majority (61%) used the preoperative weight recorded at the bariatric surgical assessment clinic prior to surgery. 20% of the

* Corresponding author. Department of General Surgery, Derriford Hospital, Plymouth, PL6 8DH, UK. Tel.: +44 7950771545.
E-mail address: arun.ariyarathenam@nhs.net (A.V. Ariyarathenam).

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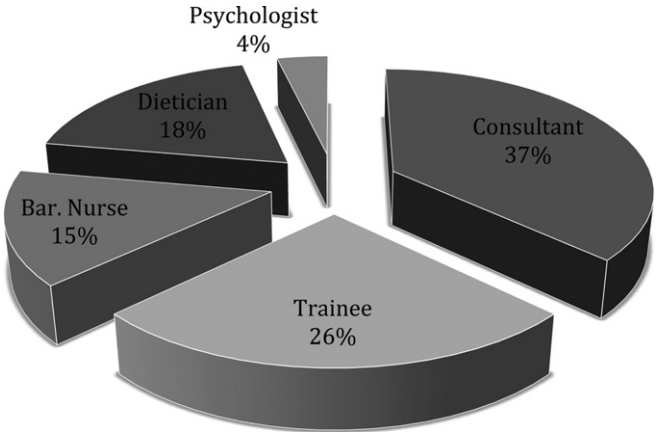

Fig. 1. Distribution of the delegates.

delegates used the highest recorded preoperative weight. The remainder of the delegates used weight recorded on day of admission for surgery (17%) or the weight recorded during the first visit to a medical physician led weight management clinic (2%). This variation in practice is noted both within and between various healthcare professionals (Fig. 2). There was variation in practice noted even within the same bariatric centre.

4. Discussion

This study confirms that there is a wide variability in the pre-operative weight used among surgeons as well as other health-care professionals involved in the bariatric patient pathway.

Weight loss is the metric most often used to assess outcome after bariatric surgery.[4] This can be represented in several ways including: absolute weight loss, percentage weight loss, change in BMI or the percentage of excess BMI loss. The most common method of weight loss among the surgical literature is %EWL.[2]

In all of the above calculations, pre-operative weight is crucial in its calculation. Preoperative weight selected for use significantly influences the calculation of %EWL. This is particularly significant at lower BMIs as demonstrated in Fig. 3, which plots the variation in calculated %EWL dependant upon which pre-operative weight is selected. The pre-operative weight used will lead to a greater variation in %EWL during early post-operative period, when patient's weight approached their ideal body weight.

The variation in the pre-operative weight at various time points can be attributed to the long multi-disciplinary pathway a UK patient undergoes from initial consultation to surgery. During this period, a variety of strategies are used to optimize the patient including pharmacotherapy, diets, intragastric balloon and exercise programs. In the last two weeks prior to surgery, further weight reduction is achieved due to a strict 'liver reducing' diet, very-low-energy-diet (VLED), where glycogen stores are depleted to ensure that the liver is small enough to make the operation technically feasible. All this can lead to a significant weight loss.

The need for standardization as initially highlighted by Dixon and colleagues,[2] where upon review of the literature, only 23% of the studies in bariatric surgery defined their methods used in the calculation of %EWL. More recently, Montero and colleagues,[3] showed a significant variation in the %EWL depending on different definitions of Ideal Body weight (IBW) and preoperative weight used, in a single centre. This was in spite of guidelines by the American Society for Metabolic and Bariatric surgery to use the pre-

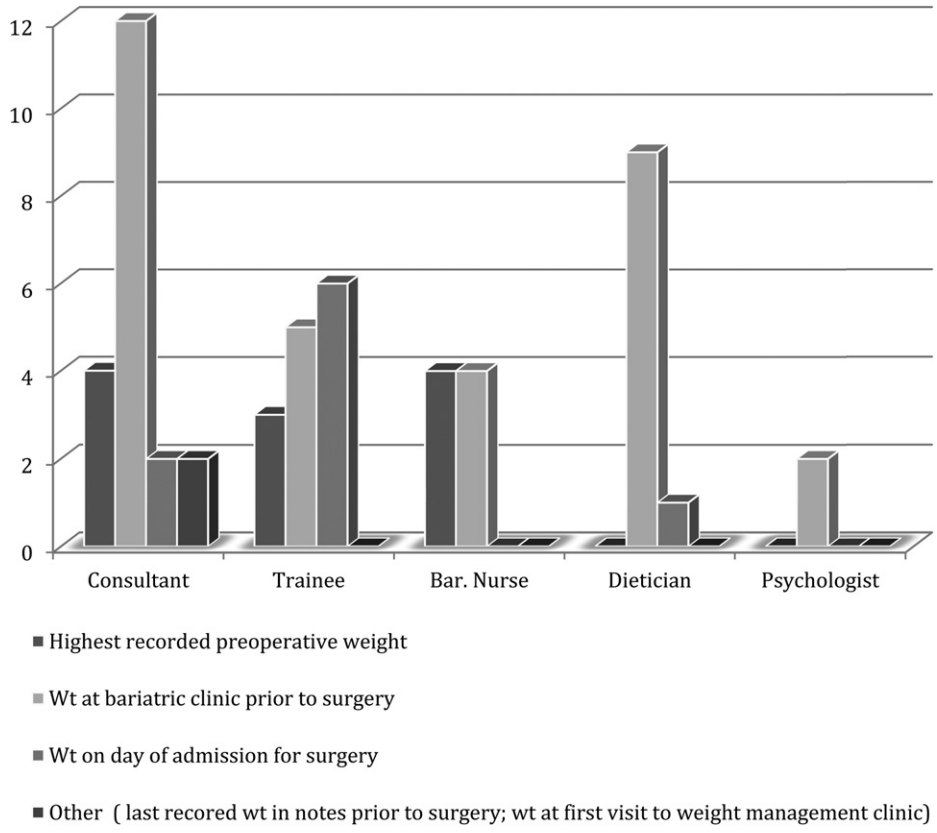

Fig. 2. Variation of pre-operative weight used at different time points by different delegates.

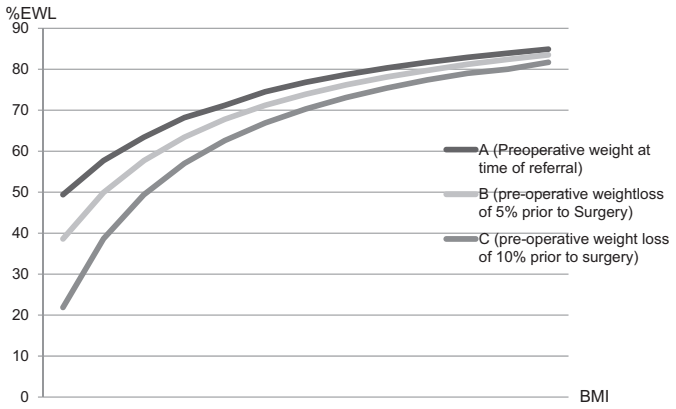

Fig. 3. Variation in calculated %EWL dependant upon which pre-operative weight is selected.

operative weight measured at admission or just prior to surgery to be used in the calculation of %EWL.[5] In our study, we have highlighted only the variation in the preoperative weight, but have shown the variation among the non-surgical disciplines.

The lack of standardization, affects the comparison of data from various centres and specialties. It will also affect comparing outcome of different surgical techniques as most centres have a surgical bias.

5. Conclusion

At present there appears to be no clear guidelines issued to UK healthcare professionals to record as preoperative weight for calculation of %EWL, as shown in the study. The study highlights the urgent need for standardization in the United Kingdom.

Ethical approval

Not applicable.

Funding

None.

Authors contributions

JCT, DJP collected the data. AVA and DJP drafted and corrected the manuscript. IGF and AC designed the study and revised the manuscript.

Conflict of interests

None.

Appendix A. Supplementary data

Supplementary data related to this article can be found at http://dx.doi.org/10.1016/j.ijsu.2012.09.025.

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